

## CLAIMS

1. An electromagnetic shock absorber comprising:
  - a shock absorber body which makes telescopic motion in response to an input from outside;
  - a ball screw mechanism which is arranged at the shock absorber body, converts the telescopic motion into rotary motion, and is composed of a ball nut and a screw shaft;
  - a motor which is provided coaxially with the shock absorber body and generates electromagnetic resistance to oppose against the rotary motion to be input into a rotary shaft of the motor; and
  - a cylindrical member which covers the shock absorber body and the motor from outside and whose part to cover the motor also serves as a motor frame.
2. The electromagnetic shock absorber according to claim 1, wherein the shock absorber body has an external cylinder and an internal cylinder to be slidably inserted into the external cylinder; a cylindrical cover having the frame of the motor is coaxially connected with an upper part of the external cylinder; and the external cylinder and the cover constitute the cylindrical member.
3. The electromagnetic shock absorber according to claim 1, wherein the shock absorber body has an external cylinder and an internal cylinder to be slidably inserted into the external cylinder; an upper part of the external cylinder extends so as to cover the motor and the frame of the motor is formed at an extended part of the external cylinder; and the cylindrical member is constituted by the external

cylinder.

4. The electromagnetic shock absorber according to claim 2 or claim 3, wherein the rotary shaft of the motor is rotatably supported at its both ends by a pair of bearings installed at the external cylinder.

5. The electromagnetic shock absorber according to claim 4, wherein the ball nut of the ball screw mechanism is fixed to an upper part of the internal cylinder and a screw shaft to be spirally engaged with the ball nut is connected with the rotary shaft of the motor; an outer circumference of the internal cylinder is slidably supported by a bush installed at an inner circumference of a lower end of the external cylinder; and a halfway point of the screw shaft is rotatably supported through bearings installed inside the external cylinder.

6. The electromagnetic shock absorber according to claim 5, wherein the screw shaft and the rotary shaft are connected through a planetary gear mechanism which decelerates and transmits a rotation of the screw shaft to the rotary shaft.